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# CONTAMINATION OF MILK AND MILK PRODUCTS[1]

ROBERT S. ROE

*Bureau of Biological and Physical Sciences, Food and Drug Administration,*

*Department of Health, Education, and Welfare*

The Food and Drug Administration is responsible for the administration of the Food, Drug, and Cosmetic Act, which is intended to prevent interstate commerce in adulterated or misbranded foods, drugs, medical devices, and cosmetics. Applied to milk and milk products, the problems of contamination fall chiefly into two categories:

1. Contamination arising from use of filthy or decomposed milk, insanitary conditions in the production, storage, transportation or manufacture of milk products; or that caused by diseased animals.
2. Contamination with poisonous or deleterious substances which may be derived from pesticide residues on forage or feed, from fly sprays in dairy barns, drugs used in the treatment of animals or as growth promotion agents, sanitizing agents employed on premises or equipment of milk-handling or manufacturing establishments, or from preservatives deliberately added.

As to the first category, the Administration has vigorously pursued clean milk programs ever since enactment of "sanitary clauses" in the 1938 Act. First attention was directed to sanitation of dairy products manufacturing plants to eliminate any existing insanitary plant conditions that might contribute filth to butter, cheese, evaporated milk or other manufactured dairy products. Attention soon was directed also to the character of the milk or cream received by such plants. Pressure has been brought to bear on manufacturers to reject filthy or decomposed milk and cream for manufacturing use and thus encourage improvement in farm sanitation and in the handling and care of milk and cream all along the line. Such pressure is applied through regulatory actions — seizures, prosecutions or injunctions — based upon interstate shipments of the manufactured products. This has required extensive investigation including the development of special analytical procedures involving interesting and varied research projects. Time does not permit discussion of these here. Suffice it to say that legal procedures in this country properly require the Government to bear the burden of proof and to sustain by adequate evidence prosecution of a defendant or condemnation of merchandise. Among other things this means that we must be able to prove that a particular shipment in interstate commerce was "prepared, packed, or held under insanitary conditions whereby it may have become contaminated with filth . . . . ." This we have been able to do through the development of methods that enable detection and identification of microscopic fragments of filth or the chemical breakdown products of decomposition.

Mr. Robert S. Roe is a native of Denver, Colorado, and is a graduate of the University of Denver. He has spent 32 years with the Bureau of Chemistry and the Food and Drug Administration serving successively in the following assignments: Office of Import Supervision in Washington; Assistant Chief of the San Francisco Station; Chief of Seattle Station; and Chief of Los Angeles District. He returned to Washington and in 1956 became Director of the Bureau of Biological and Physical Sciences.

We have sponsored and participated in educational programs with trade and industry associations and other Government agencies. Our objective is clean milk and clean milk products. We think it is not enough just to filter milk or cream to remove some of the evidences of insoluble filth. Our objective is "clean" rather than "cleaned" milk. Similarly, we think that the emphasis should be directed to proper handling and care of milk to prevent spoilage or decomposition. It is obvious that State and local sanitarians and the State and county agricultural agents, in encouraging better sanitation in the production and

[1]Presented at the 44th Annual Meeting of the INTERNATIONAL ASSOCIATION OF MILK AND FOOD SANITARIANS, INC., in Louisville, Kentucky, October 7-10, 1957.

handling of milk to prevent filth contamination and decomposition, can directly accomplish that which we can do only by the rather indirect approach afforded by the Food, Drug, and Cosmetic Act on the products of interstate commerce.

As to the second category of contaminants, this discussion will be directed particularly to chemical contaminants that can be contributed to milk from pesticides or from treatment of dairy animals with drugs, such as antibiotics. In 1949 it was found that the use of DDT for fly control in dairy barns resulted in the appearance of that chemical in milk of exposed cows. Conferences between the Public Health Service, Food and Drug Administration, and the Department of Agriculture led to withdrawal of recommendations for use of DDT in dairy barns or on dairy cattle, and the issuance of warnings by the Department of Agriculture against such use.

The Food and Drug Administration has never sanctioned the presence of poisonous or deleterious substances in milk. We have felt that this important food commodity should be kept free of any amount of contaminants of this sort. Milk and milk products constitute the largest proportion of the average American diet. Based upon statistics compiled by the Department of Agriculture we have estimated that milk products make up about 29% of the average diet, that milk itself constitutes about 25%. This represents about a pint per person per day. No other one class of food forms a third as much of the diet. We have also had in mind that milk is the chief food in the diet of infants, small children, invalids and many persons on restricted diets. These represent population segments that are likely to be much more susceptible to injury than normal healthly adults.

Although we have never sanctioned residues in milk, recent surveys have indicated that some contamination has at times occurred. Several years ago limited surveys on market milk indicated the presence of antibiotics in some samples. A comprehensive sampling program was completed in 1956. Over 1700 samples, representing all of the States, were collected in the fall of 1955. Assays revealed that 5.9% contained penicillin, as confirmed by the penicillinase identity test. The concentration ranged from 0.003 up to 0.55 unit per milliliter. About 1% of the samples appeared to contain one of the tetracyclines, bacitracin, or a combination of antibiotics. Definite identity tests for these were not available. These facts were brought to the attention of an advisory panel of scientists and physicians knowledgeable as to antibiotics. The panel agreed that penicillin even in the very small quantities observed in these milk samples might cause allergic reactions in highly sensitive individuals. It seemed probable that the antibiotics observed in milk came from antibiotic-containing drugs used in the treatment of mastitis.

Preparations containing certain antibiotics including penicillin are subject to certification by the Food and Drug Administration. Certification is intended to insure the safety and efficacy of the preparations when used in accordance with labeling directions. The first certified antibiotic preparation intended specifically for mastitis treatment contained 25,000 units of penicillin per dose. The evidence submitted showed the efficacy and safety of this product. Later when dosages were increased it was required that the labeling directions admonish that milk taken from treated cows within 72 hours after treatment should be discarded. In recent years it has been observed that the dosages in mastitis preparations have been steadily increasing. Some preparations have contained as much as 1,500,000 units of penicillin per dose. We think that is excessive and is likely to increase tremendously the probability of prolonging the appearance of residues in milk.

A program has been instituted which we believe will bring about immediate and substantial improvement. The antibiotic regulations have been revised to limit to 100,000 units the dosage of penicillin which is eligible for certification for single-dose mastitis preparations. We are also requiring more prominent display on labels of the warning statement against the use of milk for a definite time period after treatment. A vigorous educational and informational program is being carried out to emphasize to dairymen and farmers the importance of proper use of these drugs and the necessity for adhering closely to directions. The Federal Extension Service of the Department of Agriculture is taking the leading role in this program and trade associations in the dairy industry are participating.

Our surveys have also revealed evidence of the presence of minute quantities of pesticide chemicals in milk. The same samples collected for the antibiotic survey were also examined for presence of pesticide chemicals. Eight hundred of the samples of milk were so tested, using a sensitive fly-bioassay procedure. About 60% of the samples tested revealed positive results, chiefly for chlorinated hydrocarbons. No organic phosphates were detected. By applying chromatographic procedures to the samples exhibiting the highest toxicity to flies we were able to identify the presence of several chlorinated hydrocarbons, including DDT, DDD, DDE, BHC, lindane, and methoxychlor. The highest amount found was estimated at about 1½ parts per million of DDT.

While the amounts of the contaminants revealed by this survey do not seem to be significant as a public

health hazard, the implications are startling and suggest the possibility that continuing and increasing amounts might lead to a public health problem. Furthermore, milk containing an added poisonous or deleterious substance is illegal for interstate shipment unless a safe tolerance has been established. No tolerance for such substances in milk has been established.

We postulated that the appearance of these pesticide chemicals in milk might be the result of ingestion by dairy cattle of feed containing residues of the chemicals or the result of the use of these pesticide chemicals in fly sprays on or around dairy cattle. We made additional follow-up investigations in four of our field Districts (San Francisco, Los Angeles, New Orleans, and Atlanta) where the contamination seemed to be most pronounced. These investigations were made between December 1956 and April 1957. No residues were found in any of the samples tested by three of the Districts at that time and only slight indications in one or two samples in the Atlanta District. Samples in this survey represented winter milk, whereas the assays made in 1956 were on milk collected in the fall of 1955. This suggests a seasonal factor and we are again repeating some of this work on late summer and fall milk this year.

The informational program of the Extension Service of the Department of Agriculture is also giving emphasis to the hazard of milk contamination through improper and careless use of fly sprays or pesticide applications on forage crops.

In setting tolerances for pesticide residues in forage crops we have required petitioners to present data showing whether or not residues appear in the food products derived from animals consuming such forage. If residues do appear, tolerances for forage crops are not granted unless at the same time a safe tolerance is requested and can be established for residues in the food products, such as meat, eggs, and milk. The misuse of pesticides either on forage crops or as insect-control agents on dairy animals or dairy premises may result in contamination of milk.

We are giving concentrated attention to these problems and we intend to pursue all possible avenues in coping with them. We shall employ educational, informational and regulatory programs to assure clean safe milk and milk products.

# USE OF TIME-DELAY RELAY TO CONTROL BOOSTER PUMP OPERATION

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Milk sanitation authorities have long been concerned with the need for safeguards to prevent possible contamination of pasteurized milk by raw milk in regenerators. Their concern arises from the possibility that flaws in the metal plates or tube walls separating raw milk from either pasteurized milk or a heat-exchange medium would permit leakage of raw milk or the heat-exchange medium into the pasteurized product. Although the hazard is common to all types of regenerators, it is particularly significant in the most frequently used type, milk-to-milk regenerators with both sides closed to the atmosphere. In these, heat transfer occurs directly through metal plates separating opposed streams of cold raw milk and hot pasteurized milk.

In 1938, Fuchs (*1*) described in detail specifications governing the design, installation, and operation of regenerators of all types which would assure the maintenance of pressures on the pasteurized product higher than those on the opposed raw milk or heat-exchange medium. The basic principle of these specications was to provide conditions which would result in sub-atmospheric pressure on the raw milk side of the regenerator, and pressure above atmospheric on the pasteurized milk side. The spcifications were incorporated in detail in the 1939 edition of the Milk Ordinance and Code recommended by the Public Health Service (*2*). It was also noted in the 1939 Code that other specifications could be developed which would assure proper relative pressures without requiring raw milk to be at sub-atmospheric pressure.

Since it was not uncommon for milk plant operators to experience difficulty when all raw milk was sucked through the regenerator, there was a desire on their part to use a small booster auxillary pump at the raw milk inlet to the regenerator to facilitate flow. For this reason, specifications were developed and incorporated in the 1953 Milk Ordinance and Code (*3*) for the utilization of an auxiliary pump. The specifications are as follows:

"No pump shall be located between the raw milk inlet to the regenerator and the raw milk supply tank, unless it is so designed and so installed that it can operate only when milk is flowing through the pasteurized milk side of the regenerator, and when the pressure of the pasteurized milk is higher than the maximum pressure produced by the pump. This may be accomplished by wiring the booster pump so that it cannot operate unless (a) the metering pump is in operation, (b) the flow-diversion valve is in the forward-flow position, and (c) a sanitary pressure switch located at the pasteurized milk outlet from the regenerator is so set and sealed as to complete the circuit only when the pasteurized milk pressure exceeds, by at least 1 pound per square inch, the maximum pressure developed by the booster pump."

The latter part of the above paragraph suggests specific means for controlling the operation of the booster pump. Clauses (a) and (b) limit its operation to those periods when milk or other fluid is flowing through the flow-diversion valve; clause (c) further restricts its operation until such time as the pressure at the pasteurized milk outlet of the regenerator exceeds by 1 pound the maximum pressure developed by the booster pump.

Pressure switches have not, in all cases ,proven entirely satisfactory. To respond to the small changes in pressure involved, the diaphragms must be thin and sometimes these rupture at the peripheral junction. In addition, operating difficulties have been experienced when short-circuiting of the switch occurred from moisture or other means. Accordingly, there has been a desire on the part of some operators to use alternate means to control booster pump operation, and the discussion which follows is derived from observation of several experimental installations where a time-delay relay has been used in lieu of a pressure switch.

Suitable time-delay relays with settings adjustable up to several minutes are available through most of the larger manufacturers of electrical equipment. They have been extensively used for many years in a variety of applications and have proven dependable. Their cost is nominal, approximating that of a suitable pressure switch. They are compact and may be readily mounted on the back of the HTST control panel by brackets available from the manufacturers. If not provided with a means for sealing, a satisfactory seal can be provided by drilling holes at appropriate places and using a standard wire and lead seal. Manufacturers should be consulted as to the type of relay best suited for this purpose.

The function of the time-delay relay is to provide automatically a predetermined elapsed length of time between the moment when the flow-diversion valve

assumes the forward-flow position and the moment when the booster pump is energized. The time lapse required is that necessary for the forward flow of liquid through the regenerator, cooler, and subsequent piping to rise to a height sufficiently above the HTST unit to provide a pressure at least one pound greater than the maximum pressure of the booster pump as measured at the pump discharge. This time is determined for each individual installation and the time-delay relay sealed at the required setting. Thereafter, it is a simple matter by means of a stop watch to check the elapsed time interval between establishment of forward flow and the energizing of the booster pump. However, changes in pumps or other equipment affecting the rate of flow would require a new time determination and possible adjustment of the time-delay relay.

## ESTABLISHMENT OF NECESSARY TIME LAPSE

The determination of the time lapse necessary for the milk to reach the point in the HTST system where proper pressure differentials between the pasteurized and raw milk are assured, requires that the four steps described below be performed in the sequence indicated (See Figure 1).

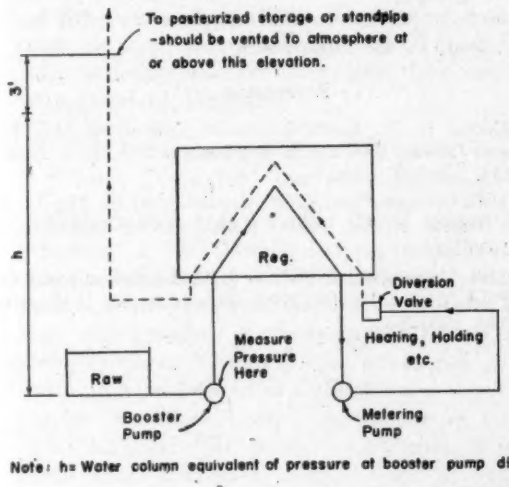


Figure 1. Diagram showing required minimum height of liquid level before booster pump cuts in.

1. *Determination of Booster Pump Pressure:* This determination should be made under operating conditions which will provide the maximum discharge pressure by the booster pump. Operate pasteurizer with water, with the flow-diversion valve in forward-flow position, the metering pump operating at minimum speed possible, and the booster pump operating at its rated speed. If vacuum equipment is located between the regenerator and the metering pump, it should be by-passed while this determination is being made.

   The pressure in pounds per square inch at the discharge of the booster pump may be determined by means of a pressure gauge or suitable mercury manometer. The reading in pounds per square inch should then be converted to an equivalent height of water column by multiplying the reading by 2.3. For example, a reading of 3 pounds per square inch would be equivalent to a vertical water column of 6.9 feet. The vertical height of the equivalent water column may also be determined directly and more simply by connecting an open-ended piping or hose arrangement to the booster pump discharge and elevating the open end to the point where the flow in the open pipe end is reduced to zero and the rated speed of the booster is merely supporting the column of water. While this determination is being made, flow will, of course, continue through the HTST unit.

2. *Determination of Pasteurized Milk Elevation:* The height to which the liquid level in the pasteurized milk circuit downstream from the flow-diversion valve should rise above the booster pump outlet level, after establishment of forward flow and before the booster pump begins operating, should be at least three feet greater than the vertical water column equivalent of the maximum booster pump pressure as determined under (1) above. This will provide a 1-pound excess pressure differential on the pasteurized side of the regenerator plus a differential equivalent of 0.7 feet of water column to compensate for the difference in specific gravity between water at 161° F. and raw milk at 40° F. Thus, under the example cited in (1), the pasteurized liquid level should rise to 9.9 feet (6.9 plus 3) above the elevation of the discharge of the booster pump before the booster pump begins operation. To provide this pressure, the pasteurized liquid level must be vented to the atmosphere at or above this required elevation as by means of a covered pasteurized product balance tank or by installing a sanitary vertical standpipe in the line with its upper end fully open to the atmosphere but protected against contamination.

3. *Establishment of Time Interval:* The time interval between the moment of establishment of forward flow and the moment when the pasteurized liquid level rises to the elevation specified in (2) above, should next be determined. This time measurement should be made at the beginning of the run when there is no water in the pasteurized circuit downstream from the flow-diversion valve; otherwise the circuit should be drained so that a true timing determination can be made. (A diverting

tee may be installed temporarily at the elevation called for in (2) above to permit visual observations.) In making this determination, the HTST unit should be completely assembled, but the booster pump electrical circuit should be disconnected and the metering pump should be operated at the minimum speed possible. The longest time interval required for the desired elevation to be reached under all conditions of operation will then be determined by starting a stop watch at the moment when forward flow starts and stopping it when the elevation is reached.

4. *Setting of Time Delay Relay:* The time-delay relay should be installed in the reconnected circuit to the booster pump. This circuit must, of course, also be interlocked to permit operation of the booster pump only during periods when the metering pump is operating and the system is in forward flow. The time setting on the time-delay relay is then adjusted to provide the time interval as determined in (3) above.

The adequacy of this adjustment to prevent starting of the booster pump until the proper pasteurized fluid level is attained, should be checked before this setting is sealed. This may be done by draining the pasteurized side of the regenerator, and then observing whether the required pasteurized liquid level is actually reached before the booster pump starts. During this test the pasteurizer should be operated under the same conditions as were specified in (3) above for determining the time interval.

## OPERATING SEQUENCE

When the HTST pasteurizer is started, raw milk is circulated through the regenerator by the metering pump without the booster pump in operation. During this recirculating period, the milk on the raw side of the regenerator is under sub-atmospheric pressure. The pasteurized side of the regenerator is empty and, therefore, under atmospheric pressure. After pasteurization temperature is reached and forward flow established, the control circuit to the time-delay relay is energized and the pre-determined cycling interval started. Upon completion of the time interval the booster pump is energized. This assures proper relative pressures in the regenerator. Should the HTST pasteurizer for any reason go into diverted flow or the metering pump stop, the time-delay relay control circuit is de-energized and the booster pump stopped. After forward flow is resumed, the time-delay relay is energized and complete recycling occurs.

## SUMMARY

A procedure for the installation of a time-delay relay in connection with a HTST pasteurizer which can be used in lieu of a pressure switch for controlling booster pump operation, is presented. The cycling interval principle of this relay assures proper pressure differentials in milk-to-milk regenerators with both sides closed to the atmosphere.

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# STATUS OF INTERSTATE MILK SHIPMENT LABORATORY CERTIFICATION[1]

LUTHER A. BLACK

*Milk and Food Research Program*

*Robert A. Taft Sanitary Engineering Center*

*Public Health Service*

In 1946 State and Territorial Health Officers asked the Public Health Service to develope a plan for certification of interstate milk supplies, and in 1949 again requested assistance in this matter. Representatives of several states arranged for a National Conference on Interstate Milk Shipment in 1950, and their original and subsequent recommendations have been reported elsewhere (*1*). These recommendations included a provision that . . . "the state may accept the results from local official laboratories which they have approved as complying substantially with American Public Health Association Standard Methods and checking closely with results obtained at least twice per year on split samples." Another provision stated that: "To insure uniformity, the U S Public Health Service is to spot check the laboratories of the state agencies participating in the certification of milk for interstate shipment and to certify their compliance with Standard Methods."

## STATUS OF FEDERAL AND STATE MILK LABORATORY CERTIFICATION PROGRAM

Table 1 Part A summarizes Public Health Service activities for 1950 through 1957 as to the number of states and the central or local laboratories visited each year in connection with certification of their compliance with *Standard Methods for the Examination of Dairy Products*. Thirty-three interstate milk shipment states and the District of Columbia are listed in the current "Sanitation Compliance Ratings of Interstate Milk Shippers." The central laboratories of 6 additional states also have been certified at their own request, three having been listed at one time as interstate milk shipment states with the other three having indicated their desire to participate. The central laboratories of these 39 states and the District of Columbia are in substantial compliance with Standard Methods. As of September 1, 1956 all states now listed as interstate milk shippers had been visited within the preceding two years.

TABLE 1 — STATUS OF INTERSTATE MILK SHIPMENT LABORATORY CERTIFICATION

| | 1950 | 1951 | 1952 | 1953 | 1954 | 1955 | 1956 | 1957 |
|---|---|---|---|---|---|---|---|---|
| A. Public Health Service Certification of States during: | | | | | | | | |
| States visited | 21 | 24 | 25 | 11 | 16 | 26 | 17 | 10 |
| Laboratories surveyed | 36 | 27 | 42 | 29 | 45 | 44 | 22 | 10 |
| B. State Certification of Local Milk Laboratories | | | | | | | | |
| Approval programs | 12 | 13 | 13 | 19 | 40 | 41 | 42 | 42 |
| Surveys available | 1 | 2 | 4 | 5 | 9 | 17 | 28 | 33 |
| Split sample data available | | | | 1 | 3 | 8 | 18 | 25 |

Table 1 Part B summarizes state activities in certification of milk laboratories. All but one of the states (and D.C.) currently listed as interstate milk shippers now have programs for approval of local milk laboratories, as well as 5 of the 6 past or potential shipping states. In addition, two milk receiving states and two other states are known to require approval of all local milk laboratories within their respective jurisdictions. Completed survey forms for local milk laboratories surveyed by the states have been forwarded to the Public Health Service in increasing number from 1950 to 1957 (Table 1 Part B). They have been received from all but two states. Similarly an increasing number of interstate milk shipment states have forwarded the results of samples which they have split with their approved local milk laboratories.

State compliance with the provisions of the National Conference for Interstate Milk Shipment relative to certification of local milk laboratories has been charted in Figure 1. From this chart it may be seen that many states initiated annual surveys of local laboratories following the first National Conference in 1950 and initiated split sample programs about 1953. The rapid peak achieved in 1954 for states having local milk laboratory approval programs no doubt reflects the terminal date of December 15, 1954 beyond which states utilizing local laboratories not under approval would no longer be listed. Since it was proposed to establish January 1, 1958 as the terminal date for listing interstate milk shippers from states which are not fulfilling both the annual laboratory inspection and semiannual split sampling requirements, the level for split sample data should also show a peak about that time and then remain

[1]Substance of discussion presented at Sixth National Conference on Interstate Milk Shipment, Memphis, Tennessee, April 23, 1957.

at the level for survey forms.

### STATE ACTIVITIES IN APPROVAL OF LOCAL LABORATORIES

Because of incomplete data for some of the interstate milk shipping states, in January 1957 all PHS regions were advised of the need for data as accurate and up-to-date as possible for presentation at the Sixth National Conference on Interstate Milk Shipments. The regions were asked to request information from the states currently participating in the cooperative State-PHS program for interstate milk shippers, to include the number of local laboratories approved, the tests approved for pasteurized and raw milk, and the practices in split samples. Their response was excellent, with replies received from all states. The results were tabulated as of March 29, 1957. The information was requested under seven headings, with several alternative methods of examination named, but without providing a reply chart. As a result a few replies could not be tabulated properly, even by reference to files of state laboratory surveys and split sample data, so a few blank spaces and question marks appear in the tabulations. The replies from individual states were entered by code number under the appropriate PHS region[2].

Table 2 summarizes the nature of laboratory tests approved for pasteurized and raw milks. One of the interstate milk shipping states was not currently using any laboratory other than the central state health department, but the remaining 33 were utilizing 344 local laboratories. Of these, 300 were examining pasteurized milk, 286 were also using colform counts and 263 were making phosphatase tests. In 24 states the number of local laboratories approved for each method is identical, as it should be since these three tests are required for proper laboratory examination of pasteurized products. The data reported by 8 states showed fewer coliform and phosphatase tests than standard plate counts.

Plate counts were being used by 209 of the local laboratories examining raw milk for interstate shipment. In 13 states this was the only test used. Direct microscopic clump counts were used by 129 of the local approved laboratories. This was the only test used by 4 states, all located in PHS Region III. Methylene blue reduction tests were used by 47 laboratories located in 7 states, and resazurin reduction by only 8 laboratories in 3 states.

The distribution of the states and the number of local laboratories reported by each as used for interstate milk shipment are shown in Figure 2. Several states have subsequently approved additional laboratories not then currently utilized for interstate milk shipment.

[2]A detailed table was distributed and copies are available from the author.

TABLE 2 — LOCAL MILK LABORATORIES APPROVED BY STATES FOR INTERSTATE MILK SHIPMENT (MARCH 29, 1957)

| States | Local Laboratories | Tests Approved | | | | | | |
|---|---|---|---|---|---|---|---|---|
| | | Pasteurized Milk | | | Raw Milk | | | |
| | | Plate Count | Coliform | Phosphatase | Plate Count | Direct Count | Methylene Blue | Resazurin |
| 33 | 344 | 300 | 286 | 263 | 209 | 129 | 47 | 8 |

### STATE SPLIT SAMPLE PRACTICES

The split sample procedure for testing laboratory performance consists of splitting a sample of milk into several portions and shipping these portions, preserved by freezing or refrigeration at 32°-40°F to the participating laboratories for concurrent examination. The laboratories are then evaluated to some extent by comparing their results with those of one or more control laboratories.

Several states involved in interstate milk shipments initiated programs of split samples, and the need for this program was mentioned at the 1954 meeting of the Association of State and Territorial Public Health Laboratory Directors. The Association subsequently passed a resolution expressing its desire to cooperate in the examination of split samples and recommended that the Sanitary Engineering Center . . . "work out a method whereby it may serve the various states in the Milk Sanitation Program as a Central Control Laboratory in the examination of split samples for Interstate Shipment of Milk." Since then at least two plans for preparing, shipping, and examination of split milk samples have been described by state health departments active in interstate milk shipments (*3,4*).

Personnel of the Robert A. Taft Sanitary Engineering Center have participated in several evaluations of procedures planned by states that were interested in examination of split samples. A recent article (*2*) has outlined benefits reported by states that have engaged in this activity. Periodic evaluation of analytical procedures by state authorities through use of a variety of split milk samples not only is beneficial to the participating laboratories as reassurance of the suitability of their material and procedures, but it also enables approving authorities to repose confidence in these procedures and the routine results reported by approved laboratories.

Table 3 summarizes the information pertaining to split sample practices reported by the interstate milk shipping states. It shows that states have placed initial emphasis on examining pasteurized milk, 23

TABLE 3 — STATE SPLIT SAMPLE PRACTICES SHOWING NUMBER OF STATES CURRENTLY SPLITTING OR NOT SPLITTING MILK SAMPLES, LABORATORY METHODS, AND PRODUCTS
(BASED ON 33 INTERSTATE MILK SHIPPING STATES)
(MARCH 29, 1957)

| | Pasteurized Milk | | | Products | | Raw Milk | | | |
|---|---|---|---|---|---|---|---|---|---|
| | Plate Count | Coli-form | Phospha-tase | Creem | Misc. | Plate Count | Direct Count | Methyl-ene Blue | Res-azurin |
| Split | 23 | 21 | 18 | 8 | 4 | 15 | 6 | 1 | 1 |
| Not split | 9 | 11 | 13 | 22 | 26 | 12 | 10 | 6 | 2 |
| Tests currently used in states for raw milk | | | | | | 27 | 16 | 7 | 3 |

| | |
|---|---|
| States shipping liquid split samples | 14 |
| States shipping frozen split samples | 8 |
| States splitting samples at time of visit | 3 |
| States not yet activating split sample programs | 8 |

utilizing plate counts, 21 coliform, and 18 phosphatase tests. Only 8 states have included cream in split samples, and only 4 other milk products. Since all states utilizing local laboratories should use split samples for all tests and products approved, it should be noted that 9, 11, and 13 states respectively were not currently using split milk samples for plate, coliform, and phosphatase tests; 22 and 26 were not examining cream or other milk products. Twenty states reported examining split samples of producers' milk by one or more of the methods approved, 15 used plate counts, 6 direct counts, 1 methylene blue, and 1 resazurin reduction. Again it should be noted that 12, 10, 6, and 2 states approving laboratories using plate, direct, or reduction tests were not currently examining split raw milk samples for these four procedures. The tabulation shows that 27 states use plate counts for raw milk, 16 use direct counts, 7 methylene blue

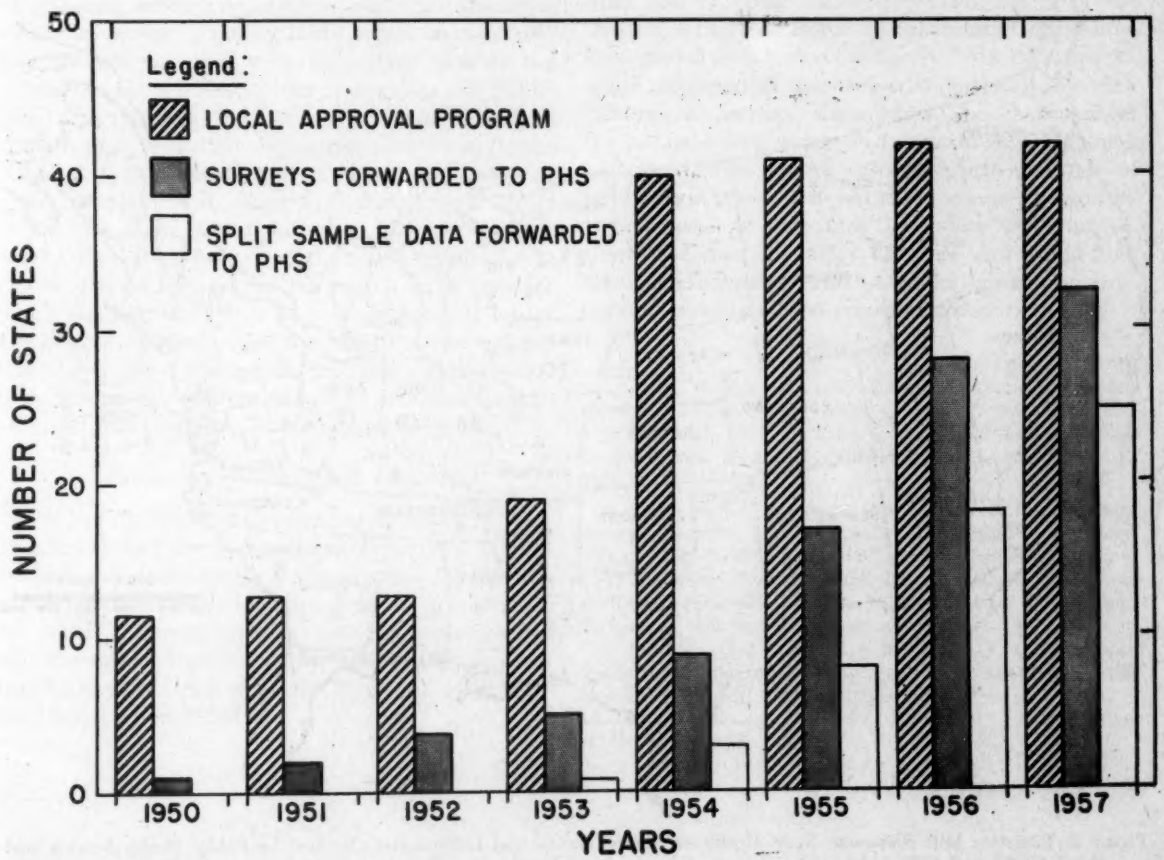


Figure 1. State compliance with laboratory certification program.

TABLE 4 — TRAINING COURSES IN MILK LABORATORY ANALYSIS

| | 1950 | 1951 | 1952 | 1953 | 1954 | 1955 | 1956 | 1957 |
|---|---|---|---|---|---|---|---|---|
| Courses Conducted in Cincinnati by PHS Personnel | | | | | | | | |
| PHS courses | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 |
| Attendance | 10 | 8 | 13 | 14 | 17 | 18 | 20 | 20 |
| States represented | 8 | 6 | 10 | 7 | 9 | 8 | 11 | 12 |
| Others | 2 | | 2 | 4 | 8 | 4 | 5 | 4 |
| Courses Conducted by States in Collaboration with PHS | | | | | | | | |
| State courses | 1 | 4 | 2 | 4 | 3 | 2 | 5 | 1 |
| Attendance | 11 | 63 | 47 | 112 | 56 | 36 | 115 | 22 |

reduction, and 3 resazurin reduction.

As of March 1957, liquid split samples were being shipped by 14 states; 8 were shipping frozen samples. Three states, carrying their own sterile apparatus and media, split samples at the time they visit the local laboratories. Thus split sample data had been received from 25 of the interstate milk shipping states.

## CONTAINERS, INSULATION, AND REFRIGERATION FOR SPLIT SAMPLES

Studies have been carried out at the Sanitary Engineering Center during the past fifteen months to develop lightweight shipping containers to enable the Public Health Service to ship split milk samples to all state laboratory agencies certified for interstate milk shipment. These studies were primarily concerned with design and evaluation of packages containing a suitable refrigerant to hold milk samples at 32°-40°F for at least 30 hours, the time estimated to be the longest required for air shipment and examination. These studies were reported at the annual meeting of the International Association of Milk and Food Sanitarians in Louisville, Kentucky, October 1957 (5). Insulated containers utilizing refreezants have been developed and used to ship pilot samples to several of the more distant states concerned. Before the end of 1957 shipment was initiated to the central laboratories of all state agencies certified for interstate milk shipments.

## TRAINING COURSES IN MILK LABORATORY ANALYSIS

Public Health Service training activities in milk laboratory analysis from 1950 to date are summarized in Table 4. Attendance and number of states represented are listed for the annual course given at the Sanitary Engineering Center. The number of courses

Figure 2. Interstate Milk Shipment. State Health or Agriculture Central Laboratories Certified by Public Health Service, and Number of Local Milk Laboratories Approved by State Authorities Based on Jan. 1, 1957 List of Sanitation Compliance Ratings.

held by states in which Center personnel participated is given for 1950 through 1957, as well as the total attendance. Reports indicate that both types of training activities have been helpful in attaining greater compliance with Standard Methods and more uniformity in milk laboratory analysis and results. In some instances initiation of a split sample program by a state has called attention to diversity in analyses reported by local laboratories, and has resulted in a state milk laboratory workshop to remedy the situation.

### RECOMMENDATIONS OF LABORATORY TASK COMMITTEES

Although in general the laboratory certification aspects of the Interstate Milk Shipment Program have functioned well, in some instances state milk sanitation authorities have not adequately informed their laboratory agency as to new shippers which may involve use of additional laboratories or methods not currently approved. The 1951 National Conference . . . "recommended that the state certification agency notify the state laboratory agency as soon as possible of required laboratory surveys, and that the state laboratory agency send duplicate copies of its laboratory surveys, together with supporting data of the results of split samples, to the appropriate US Public Health Service Regional Office." It would be helpful if state milk sanitation authorities would send state milk laboratory certification authorities a copy of each Interstate Milk Shipper Report (Form 1659) at the time this report is furnished to the PHS Regional Office. This procedure should avoid discrepancies in date of approval of laboratory, or of tests for which the laboratory is or is not approved. It would also enable state milk laboratory certification authorities to determine which milk products are being certified for interstate shipment and to include appropriate milk products in their split sample program.

### LABORATORY REPORTS AND RECORDS

The Fourth National Conference in 1953 . . . "recommended that the State laboratory agency publish annually or semiannually a list of those laboratories it has approved, including the date and test or tests for which approved." Also, . . . "It is recommended that the test or tests for which a laboratory is certified be clearly specified on the Interstate Milk Shipper Report Form 1659."

Periodic lists of approved laboratories and tests have been received from only 4 states. These lists have been most helpful in following state certification activities. If such lists were available annually from all interstate milk shipping states together with completed survey forms and split sample data, the Public Health Service could more readily summarize and disseminate pertinent laboratory information.

PHS regional offices are responsible for maintaining the routine contacts necessary for the operation of the laboratory certification program, including such actions needed to maintain the flow of laboratory inspection reports from the states. These reports should include formal inspections of each laboratory included in the control of interstate milk at the frequency specified by the National Conference on Interstate Milk Shipments, and reports of biannual split sample examinations.

### REPORT OF TASK FORCE ON LABORATORY CERTIFICATION PROCEDURE, 1957

On May 21, 1957 the State Laboratory Directors and Milk Laboratory Certifying Officials of all interstate milk shipping states were sent copies of the "Report of the Task Force on Laboratory Certification Procedures" as adopted by the NCIMS on April 25, which incorporates recommendations made by their standing Laboratory Committee. The chairman[3] of the National Conference on Interstate Milk Shipment authorized this limited distribution in advance of publication. It was believed that the report would be advantageous to state milk laboratory certifying officials and state laboratory directors, and would help clarify the interstate milk shipment laboratory certification procedures and recommendations.

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[3]H. L. Hortman.

# REPORT OF COMMITTEE ON MEMBERSHIP — 1957[1]

Stagnancy and slow growth of membership develops into an epidemic that can in time deplete the healthiest of organizations.

The remarkable growth of our organization, from 35 members in 1912 to 4307 as of December, 1957, can be attributed both to the zeal of existing members and the attractiveness of the IAMFS to sanitarians. However, there remain thousands of sanitarians who are unaffiliated and could benefit directly by becoming associated with the IAMFS.

During the past year, in order to plan our activities for the next year, the Chairman obtained suggestions from the various Committee members as to the potential fields of activities.

The following is a compilation of the suggestions submitted by the various members of the Committee:

1. A member in each state should be delegated to compile a list of all people in his state connected with food production and sanitation. In such states as New York and California, perhaps three or four persons, strategically located thoughout the state, would be required. After these people have compiled lists, it would be up to the Committee to sift out those who are already members and then contact the others.
2. A concentrated effort be made to obtain direct members from those states that have no affiliates. The Committee should devote itself this year to preparing a bulletin, entitled "Why Sanitarians Should Become Members of the International Association of Milk and Food Sanitarians, Inc."
3. More attention should be paid to obtaining new members from industry.
4. A recruitment campaign should be investigated with its target the food sanitarian at the local level.
5. The questionnaire that was used two years ago should be revised and simplified, in view of the answers we have obtained, and included as a half-page self-mailer in a forthcoming issue of the Journal.[2]
6. If a new questionnaire is prepared, it should be sent to the secretaries of the various affiliates just previous to their annual meetings, and suggest that the questionnaire be completed during these meetings.
7. We should place emphasis on obtaining at least two new affiliate organizations this year.

The replies from the members indicated that the first four projects above should be undertaken.

The recruitment program is the first step in our long range program and will consume the Committee's time for at least the next year. It was decided that a list be prepared of all milk and food sanitarians in each state, territory, and Canada, both offical and industry. Each member was assigned the task of obtaining the names and addresses of sanitarians from a number of states. The sources for these names were suggested, including the secretaries of the affiliates. Each member was asked to obtain lists and indicate on these lists those sanitarians who were not members of the IAMFS.

To date, we have received replies from 21 states and Canada. Of the states for which no reply has as yet been received, 17 states already have affiliates. Three of these states were not written to, since one of the Committee members resigned prior to the annual meeting. Of the 10 remaining states, your Chairman and Committee members have either had correspondence or personal interviews with responsible individuals in 7 of these states, indicating their willingness to work with us, not only in obtaining lists of sanitarians, but also in helping to form local affiliates.

Why did not some states with affiliates reply to our questions, and why did they not send the lists requested? This may be due to a misunderstanding as to the function of our Committee.

When the Committee was reorganized, there was no delineation made relative to its exact functions. Should our activities be restricted to membership recruitment, or should we also attempt to develop local affiliates in the 20 states where none exists now, Furthermore, should this recruitment be channeled through affiliates in their local membership committee?

Your Chairman appeared before the Executive Board to obtain from them a clear policy pertaining

[1]Presented at the 44th Annual Meeting of the INTERNATIONAL ASSOCIATION OF MILK AND FOOD SANITARIANS, INC., at Louisville, Kentucky, October 7-10, 1957.

[2]The original purpose of the questionnaire was to obtain data on our membership for use in convincing potential advertisers of the tremendous potential that exists in the Journal of Milk and Food Technology.

to the scope of the activities of the Membership Committee. This is necessary to permit us to prepare our program for the next few years. Any recruitment drive must be prepared well in advance and will undoubtedly require a number of years before fruition.

The following are the duties of the Committee as promulgated by the Executive Board:

1. Recruitment is the prime function of this Committee.
2. Where affiliates already exist, our Committee is to stimulate interest through the affiliate secretary.
3. If this procedure does not produce results, the Committee is to inaugurate a program through its own members.
4. Establishment of new affiliates should be encouraged through responsible sanitarians.
5. A series of promotional literature is to be prepared and distributed to a limited number of potential members.

To date, we have received the names of over 1000 sanitarians who are not members of the IAMFS, who should be contacted and informed of the benefits of joining our Association.

In this respect, there is need for a descriptive and cogent brochure, depicting the many advantages to the sanitarian in becoming a member of the International. This same brochure could be used advantageously by the affiliates to secure additional members within their own areas.

A number of affiliates require that all members of the local association must also become members of the International. This is a practice that should be followed by all affiliates and will result in the addition of considerable numbers to our membership.

The Committee report is only an interim report of its activities, since the program they have set out for themselves will take a number of years to develop. The success of the Committee is dependent upon cooperation, not only from its members, but from all the members of the International. Members of our Association, in the routine performance of their duties, undoubtedly meet sanitarians who are not now members, and could be of considerable assistance in convincing these sanitarian of the merit of our Association. If they will send the names of prospective members to the Chairman, or to any member of the Committee, the brochures discussed above will be sent to these prospective members.

Harold Wainess, *Chairman*
Charles E. Walton
L. O. Tucker
Otis E. Skiles
Dr. John F. Jansen
P. E. Riley
Kenneth L. Poole
Dr. Emil Mikolajcik
Dr. C. K. Johns
Mel H. Herspring
H. Clifford Goslee
Dr. L. K. Crowe
Dr. H. E. Calbert
Harold Barnum
H. L. Thomasson

# Special Service Article

## PRIVATE SEWAGE DISPOSAL SYSTEMS

**(Editor's note: Since the Journal is read by an increasing number of sanitarians who are responsible for general sanitation work, including the supervision and inspection of private sewage disposal systems, the Journal will present a series of articles on this and other subjects as a matter of technical interest and as an added monthly feature. Reader's are encouraged to suggest other topics they wish treated in this section. The present article will be presented in three parts, the first appearing in this issue.**

Safe disposal of human excreta and domestic wastes is necessary to protect the health of the individual family and the community. One of the fundemental objectives of environmental health is, and always has been the prevention of typhoid fever, dysentery and the various types of diarrhea that can be transmitted from one person to another through the fecal contamination of water and food. While the incidence of these diseases in the U.S. is now low this reduction has been brought about through increasingly strict attention to the proper disposal of human waste.

The problem presented by the private disposal system is, however, one of considerable public health magnitude. In recent years, especially since the late 1940's, there has been a steady movement of population from cities and large communities to not only surrounding fringe areas, but to locations several miles from the city. Areas which a decade ago were largely agricultural are now feeling the impact of population movement and expansion. Subdivisions are being developed far removed from municipal water and sewage treatment facilities. A number of reasons can be given for this current situation. Availability of land for residential building within corporate limits is decreasing. Industry is decentralizing with new plants erected on large tracts removed from heavily populated centers. Housing developments then occur near the new plants. Finally, due to the almost universal use of the private automobile, workers can drive from home to work in a relatively short time even though the distance may be fifteen to twenty miles and more.

With such a wide expansion of population the individual sewage disposal system has assumed a very prominent place in the overall practice of sewage treatment. While precise figures are not available, it is estimated that twenty-five million persons are served by some six million individual systems in the U.S. Of even more significance, a recent estimate reveals that about one-third of new homes being constructed must use a private system of sewage disposal.

Thus it is readily apparent that the general sanitarian working in a county or in the larger health unit must devote considerable time to this increasingly important activity of private sewage disposal. This will involve both the installation of new systems and the frequent calls which must be made on home owners whose systems are inadequate or unsatisfactory for a number of reasons.

### Objectives of a Private System

While the ideal situation is connection to an adequate public sewerage system this ideal is not possible of accomplishment for reasons which are obvious. Second best then are adequate private systems which will dispose of wastes so that:

1. They will not contaminate any drinking water supply.

2. They will not give rise to a public-health hazard by being accessible to insects, rodents, or other possible carriers which may come into contact with food or drinking water.

3. They will not give rise to a public-health hazard by being accessible to children.

4. They will not violate laws or regulations governing water pollution or sewage disposal.

5. They will not pollute or contaminate the waters of any bathing beach, shellfish-breeding ground, or stream used for public or domestic water-supply purposes, or for recreational purposes.

6. They will not give rise to a nuisance due to odor or unsightly appearance.

### Suitability of Soil of Prime Importance

Many of the problems associated with the proper functioning of a septic tank system would be largely obviated if the land on which the system is located were suitable for absorption of effluent and the area sufficient in size. These two limitations cannot be ignored. It is unfortunate that all too frequently attempts to side step them, or make compromises have resulted in malfunctioning of systems with subsequent misunderstanding, disappointment and financial burden on the home owner.

The first principle for successful operation is that the soil must have an acceptable percolation rate with-

TABLE 1. — ABSORPTION AREA REQUIREMENTS FOR PRIVATE RESIDENCES

(Provides for Garbage-Grinder and Automatic-Sequence Washing Machines)

| Percolation rate (Time required for water to fall 1 inch, in minutes) | Required absorption area, in square feet per bedroom[1] standard trench[2] and seepage pits[3] | Percolation rate (Time required for water to fall 1 inch, in minutes) | Required absorption area, in square feet per bedroom[1] standard trench[2] and seepage pits[3] |
|---|---|---|---|
| 1 or less | 70 | 10 | 165 |
| 2 | 85 | 15 | 190 |
| 3 | 100 | 30[4] | 250 |
| 4 | 115 | 45[4] | 300 |
| 5 | 125 | 60[4,5] | 330 |

[1]In every case, sufficient area should be provided for at least 2 bedrooms.

[2]Absorption area for standard trenches is figured as trench-bottom area.

[3]Absorption area for seepage pits is figured as effective side-wall area beneath the inlet.

[4]Unsuitable for seepage pits if over 30.

[5]Unsuitable for leaching systems if over 60.

out interference from ground water or impervious strata below the level of the absorption system. In general two conditions must be met:

1. The percolation time should be within the range of those specified in Table 1, and

2. The maximum elevation of the ground water table should be at least four feet below the surface. Rock formations, or other impervious strata should be at a depth greater than four feet below the bottom of the trench or seepage pit.

## PERCOLATION TESTS A MEASURE OF SOIL ABSORPTION

While some sanitarians have expressed criticism and dissatisfaction with percolation tests no one thus far, has developed a feasible substitute. While the subdivision developer or realty company, should make subsurface explorations before tracts are developed reliability of such tests may be open to question. Thus in the final analysis, the sanitarian should check by one method or another to be reasonably certain of what the subsurface soil conditions are. This is a phase of sewage disposal supervision that presents problems for the health department in terms of time and the allocation of man hours in the overall sanitation program. On the other hand, if private systems are installed where soil conditions are unsatisfactory, health authorities may be criticized by purchasers and occupants of homes who become justly disturbed when disposal systems fail to function properly.

Percolation tests determine the acceptability of the site and aid in determining the design of the subsurface disposal system. The surest method is to make tests in holes which have been kept filled with water for at least four hours, preferably overnight. Percolation rates should be figured on the basis of data obtained after the soil has had time to become wetted or saturated and has had oppurtunity to swell for at least 24 hours. A number of test holes should be used in separate locations to assure valid and representative results.

## PROCEDURE FOR MAKING PERCOLATION TESTS

The Robert A. Taft Sanitary Engineering Center[1] has recommended the following procedure for conducting percolation tests.

1. Number and location of tests. — Six or more tests shall be made in separate test holes spaced uniformly over the proposed absorption-field site.

2. Type of test hole.* —Dig or bore a hole, with horizontal dimensions of from 4 to 12 inches and vertical sides to the depth of the proposed absorption trench. In order to save time, labor, and volume of water required per test, the holes can be bored with a 4-inch auger.

3. Preparation of test hole. — Carefully scratch the bottom and sides of the hole with a knife blade or sharp-pointed instrument, in order to remove any smeared soil surfaces and to provide a natural soil interface into which water may percolate. Remove all loose material from the hole. Add 2 inches of coarse sand or fine gravel to protect the bottom from scouring and sediment.

4. Saturation and swelling of the soil. — It is important to distinguish between saturation and swelling. Saturation means that the void spaces between soil particles are full of water. This can be accomplished in a short period of time. Swelling is caused by intrusion of water into the individual soil particle. This is a slow process especially in clay-type soil, and is the reason for requiring a prolonged soaking period.

In the conduct of the test, carefully fill the hole with clear water to a minimum depth of 12 inches over the gravel. In most soils, it is necessary to refill the hole by supplying a surplus reservoir of water, possibly by means of an automatic syphon, to keep water in the hole for at least 4 hours and preferably overnight. Determine the percolation rate 24 hours after water is first added to the hole. This procedure is to insure that the soil is given ample opportunity to swell and to approach the condition it will be in dur-

*If test holes have a tendency to cave in, or slough off, caving can be prevented and more accurate results obtained by placing in test hole a wire cylinder surrounded by the same size gravel that will be used in the tile field.

*Reference*

[1] U. S. Dept. of Health, Education, and Welfare Public Health Service, Publication Ho. 526 U. S. Government Printing Office, Washington 25, D. C.

ing the wettest season of the year. Thus, the test will give comparable results in the same soil, whether made in a dry or in a wet season. In sandy soils containing little or no clay, the swelling procedure is not essential, and the test may be made as described under item 5C, after the water from one filling of the hole has completely seeped away.

5. Percolation-rate measurement. — With the exception of sandy soils, percolation-rate measurements shall be made on the day following the procedure described under item 4, above.

A. If water remains in the test hole after the overnight swelling period, adjust the depth to approximately 6 inches over the gravel. From a fixed reference point, measure the drop in water level over a 30-minute period. This drop is used to calculate the percolation rate.

B. If no water remains in the hole after the overnight swelling period, add clear water to bring the depth of water in the hole to approximately 6 inches over the gravel. From a fixed reference point, measure the drop in water level at approximately 30-minute intervals for 4 hours, refilling 6 inches over the gravel as necessary. The drop that occurs during the final 30-minute period is used to calculate the percolation rate. The drops during prior periods provide information for possible modification of the procedure to suit local circumstances.

C. In sandy soils (or other soils in which the first 6 inches of water seeps away in less than 30 minutes, after the overnight swelling period), the time interval between measurements shall be taken as 10 minutes and the test run for 1 hour. The drop that occurs during the final 10 minutes is used to calculate the percolation rate.

(The next article will discuss function and design of the septic tank)

# PROGRAM

## FORTY-FIFTH ANNUAL MEETING
## INTERNATIONAL ASSOCIATION OF MILK AND FOOD SANITARIANS, INC.

in joint session with

## NEW YORK STATE ASSOCIATION OF MILK SANITARIANS

and

## CORNELL DAIRY INDUSTRY CONFERENCE

**Hotel New Yorker**

**New York, N. Y.**

**September 8-11, 1958**

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Thomas L. Jones, Washington, D. C.
Donald H. Race, Ithaca, N. Y.

### MONDAY — SEPTEMBER 8, 1958

12 *NOON* to 9:00 *P.M.*—Registration — *Foyer*

#### Special Meetings

9:00 *A.M.*—10:30 *A.M.*—Executive Board and Local Arrangements Committee *Club Room*

10:30 *A.M.*—12 *NOON*—Executive Board and Journal Editors — *Club Room*

1:30 *P.M.*— 5:00 *P.M.*—Individual Committee Meetings

1:30 *P.M.*— 3:00 *P.M.*—Executive Board and Committee Chairman *Club Room*

2:00 *P.M.*— 5:00 *P.M.*—N. Y. State Association Executive Committee *Raleigh Room*

3:00 *P.M.*—Executive Board and IAMFS Council *Club Room*

7:00 *P.M.*— 9:00 *P.M.*—Mixer-Reception *North Ballroom*

### TUESDAY — SEPTEMBER 9, 1958

8:00 *A.M.*— 5:00 *P.M.*—Registration — *Foyer*

10:00 *A.M.*— 5:00 *P.M.*—Milk Bar — *Parlor A*

#### Morning — General Session*

*Grand Ballroom*

William O. Skinner, *President*, N. Y. State Association, Presiding

9:00 *A.M.*—Invocation — Rev. James A. Gusweller, Rector of Protestant Episcopal Church of St. Matthew and St. Timothy, New York City

*Papers are scheduled for a 20 minute presentation with 10 minutes provided for discussion.

9:05 *A.M.*—Address of Welcome — LEONA BAUMGARTNER, Commissioner of Health, New York City
Introduction by PAUL CORASH

9:45 *A.M.*—Introduction of HAROLD B. ROBINSON, President IAMFS by W. O. SKINNER
Presidential Address — HAROLD B. ROBINSON

10:15 *A.M.*—Appointment and Charge to Nominating Committee by HAROLD B. ROBINSON

10:30 *A.M.*—"Man's Changing Environment — Public Health Implications"
MARK HOLLIS, Ass't Surgeon General, Department of Health, Education and Welfare, Public Health Service, Washington, D. C.

11:00 *A.M.*—"The Dairy Industry in a Changing Society"
NORMAN MYRICK, Editor, American Milk Review, New York, N. Y.

11:30 *A.M.*—Recognition of Committees
New York State Association of Milk Sanitarians
Committee on Farm Practices
ROBERT W. METZGER, *Chairman*
Committee on Dairy Industry Equipment
WADE F. ALEXANDER, *Chairman*
Committee on Veterinary Medicines
RICHARD S. GUTHRIE, *Chairman*
IAMFS Applied Laboratory Methods Committee
JOSEPH C. MCCAFFREY, *Chairman*

11:50 *A.M.*—Announcements

12:00 *NOON*—New York State Association of Milk Sanitarians Affiliates Luncheon
*Empire Room*

**Afternoon — General Session**

FRANKLIN W. BARBER, *President-Elect*, IAMFS Presiding

2:00 *P.M.*—Door Prizes

2:15 *P.M.*—"Simplified Bacteriological Screening Procedures"
JOSEPH C. MCCAFFREY, Chief, Bureau of Sanitary Bacteriology, Illinois Department of Public Health, Chicago, Illinois.

2:45 *P.M.*—"Bacteriological Aspects of Soft Ice Cream"
JOHN J. SHEURING, Professor of Dairying, University of Georgia, Athens, Ga.

3:15 *P.M.*—Recognition of Committees
IAMFS Committee on Education and Professional Development
JOHN J. SHEURING, *Chairman*
IAMFS Committee on Communicable Diseases Affecting Man
RAYMOND J. HELVIG, *Chairman*
IAMFS Committee on Membership
HAROLD WAINESS, *Chairman*

3:30 *P.M.*—"Health Hazards in Man's New Chemical Environment"
JEROME TRICHTER, Assistant Commissioner, Environmental Sanitation, Department of Health, New York, N. Y.

4:00 *P.M.*—Report of Nominating Committee

4:00 *P.M.*—Business Session of New York State Association of Milk Sanitarians
WILLIAM O. SKINNER, Presiding

Evening—Open Night

## WEDNESDAY — SEPTEMBER 10, 1958

8:30 *A.M.*— 5:00 *P.M.*—Registration — *Foyer*

10:00 *A.M.*— 5:00 *P.M.*—Milk Bar — *Parlor A*

**Morning — General Session**

ARTHUR C. DAHLBERG, Cornell University Presiding

9:00 *A.M.*—Door Prizes

9:15 *A.M.*—"The Geography of Milk"
JACQUE M. MAY, Chief, Dept. of Medical Geography, American Geographical Society, New York, N. Y.

9:45 *A.M.*—"Recent and Proposed Dairy Legislation in New York State"
DAVID K. BANDLER, Research Director for the Joint Legislative Committee on Imitation Food Products and Problems, Cornell University, Ithaca, N. Y.

10:15 *A.M.*—Recognition of Committees
IAMFS Committee on Dairy Farm Methods
ROBERT W. METZGER, *Chairman*
IAMFS Committee on Research Needs and Application
SAMUEL H. HOPPER, *Chairman*

10:30 *A.M.*—"A Progress Report on the 3-A Sanitary Standards Program and the Activity of the 3-A Symbol Council"
C. A. ABELE, Secretary-Treasurer, Sanitary Standards Symbol Administrative Committee

11:00 *A.M.*—Panel Discussion — Pipeline Milkers
Moderator, JAMES C. WHITE, Professor of Dairy Industry, Cornell University, Ithaca, N. Y.
"Types of Pipeline Milker Systems"
RICHARD P. MARCH, Professor of Dairy Industry, Cornell University, Ithaca, N. Y.
"Design, Installation and Maintenance of Pipeline Milkers"
NELSON HOHL, New York State Department of Health, Albany, N. Y.
Comments by:
PAUL CORASH, Chief, Milk Division, New York City Department of Health, New York, N. Y.
Summation and Concluding remarks:
JAMES C. WHITE, Professor of Dairy Industry, Cornell University, Ithaca, N. Y.

12:00 *NOON*—New York State Association Newsletter Reporters' Luncheon — *Empire Room*

**Afternoon — Food Session**
*Panel Room*
JOHN J. SHEURING, *Second Vice-President* IAMFS
Presiding

2:00 *P.M.*—Door Prizes

2:15 *P.M.*—"Microbiological and Sanitary Aspects in the Manufacture of Citrus Products"
VIRGIL S. TROY, Research and Development Dept., Continental Can Company, Chicago, Illinois

2:45 *P.M.*—"Influence of Food Composition on Bacterial Growth"
KARLA LONGREE, Professor of Institutional Management, and JAMES C. WHITE, Professor of Dairy Industry, Cornell University, Ithaca, N.Y.

3:15 *P.M.*—Recognition of Committees
IAMFS Committee on Food Equipment
JOHN H. FRITZ, *Chairman*
IAMFS Committee on Frozen Food Sanitation
FRANK E. FISHER, *Chairman*
IAMFS Committee on Baking Industry Equipment
VINCENT T. FOLEY, *Chairman*

3:30 *P.M.*—"Progress Report on the Development of the New Public Health Service Recommended Food Sanitation Manual"
WILLIAM C. MILLER, JR., Chief, Food Sanitation Section, Milk and Food Program, U. S. Public Health Service, Washington, D. C.

**Afternoon — Milk Session**
*Grand Ballroom*
ROBERT W. METZGER, *President-Elect*
New York State Assn.
Presiding

2:00 *P.M.*—Door Prizes

2:15 *P.M.*—"Effects of the New Marketing Order on Dairy Farmers and Distributors in Upstate New York"
ROBERT P. STORY, Professor of Marketing, Cornell University, Ithaca, N. Y.

2:45 *P.M.*—"Better Dairy Farm Buildings"
HAROLD E. GRAY, Professor of Agricultural Engineering, Cornell University, Ithaca, N. Y

3:15 *P.M.*—Recognition of Committees
IAMFS Committee on Ordinances and Regulations Pertaining to Milk and Dairy Products
DONALD H. RACE, *Chairman*
IAMFS Committee on Sanitary Procedures
CHARLES A. ABELE, *Chairman*

3:30 *P.M.*—"Recent Changes in New York State Milk Regulations by Revision of the Sanitary Code"
CLAUDE COLVIN, Acting Chief, Milk and Restaurant Section, New York State Dept. of Health, Albany, N. Y.

4:00 *P.M.*—Business Session of International Association of Milk and Food Sanitarians
HAROLD B. ROBINSON, Presiding

7:00 *P.M.*—Annual Banquet — *Grand Ballroom*
Toastmaster — GEORGE H. HOPSON
Poughkeepsie, N. Y.
Presentation of Awards of New York State Association of Milk Sanitarians
EMMET R. GAUHN — Memorial Award
PAUL B. BROOKS — Memorial Award
Presentation of Citation Award and of Sanitarian's* Award, IAMFS
HAROLD S. ADAMS, *Chairman* of the Committee on Recognition and Awards
Presentation of Honorary Life Memberships
Guest Speaker — J. ROGER DEAS
American Can Company, New York, N. Y.

*The Sanitarians Award is supported jointly by the Diversey Corporation, Klenzade Products, Inc., Oakite Products, Inc., Olin Mathieson Chemical Corporation and the Pennsalt Chemical Corp., and is administered by the International Association of Milk and Food Sanitarians, Inc.

## THURSDAY — SEPTEMBER 11, 1958

8:30 *A.M.* to 12 *NOON*—Registration — *Foyer*

### General Session

*Grand Ballroom*

WILLIAM V. HICKEY, *First Vice-President*, IAMFS Presiding

9:00 *A.M.*—Door Prizes

9:15 *A.M.*—Panel Discussion — "Public Relations and the Sanitarian"

HOMER CALVER, Moderator

Panel Members:

JOHN H. FRITZ, Chief, Foods and Public Health Inspection Division, Washington, D. C.

HAROLD BARNUM, Chief, Milk Sanitation Services, Denver, Colorado

GEORGE H. HOPKINS, DeLavel Separator Company, Poughkeepsie, N.Y.

CHARLES E. THOMPSON, Eastern Division Sales Manager, Sealright Company, Inc., Cleveland, Ohio

11:00 *A.M.*—"The Price of the Best is always All the Rest"

FRANK W. LOVEJOY, Socony Mobil Oil Company, New York, N.Y.

11:45 *A.M.*—Installation of Officers

12:00 *NOON*—Adjournment of Meeting

1:00 *P.M.*—Meeting of Executive Board, IAMFS

*Club Room*

# NEWS AND EVENTS

## DR. ROSS OF TULSA TO RETIRE

Dr. R. G. Ross, one of the country's leaders and pioneers in milk sanitation will retire July 1, 1958 from his position as Director of Milk Control for Tulsa, Oklahoma, Department of Health.

He graduated from Iowa State College with the D.V.M. degree in 1913. He joined the staff of the Tulsa Department in 1929 and was instrumental in setting up the milk control program for that city. He remained with Tulsa until 1947 at which time he became supervisor of milk control for the Oklahoma State Health Department and continued in that capacity until 1953 when he returned to his former position in Tulsa.

In 1949 he was instrumental in the promulgation of a uniform state milk law which was enacted that year by the State Legislature. It then became his responsibility to put the new law into effect and to promote state wide conformity of milk regulations and their administration. This was accomplished in Dr. Ross' capable hands.

Dr. Ross is a past president of International having served in 1946-47. In 1954 at Atlantic City N.J. he was honored and recognized by this Association when he was presented the *Citation Award* for outstanding contributions and devoted service to International. He has served on many important committees over the years and has given unselfishly of his time and talents. Upon retirement Dr. Ross will continue to live in Tulsa.

His many friends in milk control work and his fellow members of International wish him the very best in his retirement. We hope he will continue to be in attendance at the annual meetings for that is a meeting he has seldom missed.

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## 3-A STANDARDS APPROVED OTHER STANDARDS CONSIDERED

Final approval was given to the 3-A Sanitary Standards for Milking Machines, and also to a new amendment to the existing 3-A standard for pumps to provide for rubber rotors, at the regular semi-annual meeting of the 3-A Sanitary Standards Committee held at St. Louis, Mo., on May 20-22. Some 100 sanitarians, engineers and dairy processors from all parts of the United States were in attendance.

A number of other tentative 3-A Standards were considered, and one for Ice Cream Freezers was approved by the dairy processors group. Each standard must be approved by three groups: one represents dairy processors; another, public health officials and local sanitarians; and a third, dairy equipment and supply manufacturers. Other tentative standards, or amendments to existing standards, were considered for bulk milk tanks, coin operated milk vendors, cottage cheese fillers, ice cream fillers, separators and clarifiers, plastics and rubber, and air-under-pressure.

Because of the increasing significance of 3-A Sanitary Standards, conferees considered means to disseminate information on the activities and accomplishments of the 3-A Committees among colleges and universities offering courses in dairy technology.

The next regular meeting of the 3-A Sanitary Standards Committee will be held early in 1959 in an eastern location. Persons interested in obtaining an announcement of the time and place and agenda of this session many contact the Secretary of the 3-A Sanitary Standards Committee Donald H. Williams, at Room 512, 1145 19th Street, NW, Washington 6, D. C.

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## STATE SANITARY ENGINEERS ENDORSE VOLUNTARY INTERSTATE MILK CERTIFICATION PLAN

The Conference of State Sanitary Engineers at their biennial meeting held at Washington, D. C., on May 5-9, 1958 recognized the need for a positive stand on the matter of Federal milk legislation. Several bills have been introduced during the last several sessions of Congress dealing with this matter. Public health agencies, by and large, have taken no concerted action on these bills. By resolution which is reproduced below, the Conference has endorsed a voluntary plan for certification of the sanitary quality of fluid milk shipped in interstate commerce.

WHEREAS, milk is a highly perishable food product for the most part produced and marketed intrastate, which requires considerable protection at all stages of handling and processing to prevent the transmission of disease; and

WHEREAS, sanitary control of fluid milk and fluid milk products has been developed in the United States on a local milk shed basis under authority appropriately vested in the States and their political subdivisions; and

WHEREAS, milk sanitation programs conducted by State and local health agencies, with

technical assistance from the Public Health Service, have markedly reduced the incidence of milkborne disease; and

WHEREAS, several bills have been introduced in the last several sessions of the Congress to establish Federal sanitary control over milk shipped interstate, most of which would abridge the rights of States and their political subdivisions to protect their market milk supplies and some of which would separate sanitary control of milk from health agencies; and

WHEREAS, the impact of Federal milk sanitation legislation is of vital concern to State and local health agencies; and this Conference has not heretofore expressed a positive position regarding Federal milk sanitation legislation; now, therefore, be it

RESOLVED, by the Conference of State Sanitary Engineers assembled in Washington, D. C., on May 9, 1958, that the Conference take a positive position that Federal milk sanitation legislation be enacted which, instead of abridging the rights of States and localities, would (1) provide for a declaration by the Congress that the sanitary control of fluid milk and fluid milk products is a public health matter and is the responsibility of States and their political subdivisions, (2) authorize the Public Health Service to conduct research and to provide technical services and training in support of State and local milk sanitation programs, and (3) require the Public Health Service to administer a voluntary program for certification of the sanitary quality of fluid milk and fluid milk products shipped in interstate commerce, in cooperation with the States and the milk industry; and be it further

RESOLVED, that copies of this resolution be transmitted to the Secretary, Department of Health, Education and Welfare, and to the Surgeon General of the Public Health Service; and that the position of this Conference, as stated herein, be formally presented in testimony before any future Congressional hearings dealing with the sanitary control of fluid milk and fluid milk products.

NOTE: International has been active in and assisted with the work of the National Conference on Interstate Milk Shipments since its inception.

## ROLE OF BUTTERFAT IN NUTRITION AND IN ATHEROSCLEROSIS

Reporting in the Journal of Dairy Science, F. A. Kummerow, Department of Food Technology, University of Illinois, has shown that dietary fat is vital to life and to the structure of the cell itself; it cannot be removed from the living cell without fatal injury to it. This pronouncement is especially important in light of current trends on the part of weight conscious Americans who look upon fats generally as a food component to be avoided. Similarly there has been a tendency to link atherosclerosis with the intake of fats in the normal human diet.

Commenting further on this subject Dr. Kummerow indicates that current advice on low fat diets as related to atherosclerosis often rests on incomplete knowledge of the effect of one dietary component on another. He states, "Our experiments indicated that a high level of protein is a more important factor in the decrease of serum cholesterol than the amount or kind of fats in the diet."

Reporting further he reveals that it may be desirable to lower the consumption of high calorie foods if these items are consumed at the expense of high protein foods. But, more fat may be stored through an excessive intake of carbohydrates (since these can be converted into fats and cholesterol in the body and stored in the body-fat depots) than through a moderate intake of fat. Thus, high-protein foods such as milk, meat, and eggs should serve as the foundation of our diet, with added vegetables (and a small amount of high energy foods if needed) to provide the dietary essentials, rather than cutting out a source of animal protein, such as whole milk, simply because it contains a small percentage of hard fats.

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## ABRAHAMSON HONORED BY FOOD AND DRUG OFFICIALS

Abraham E. Abrahamson of the New York City Health Department was honored by the Central Atlantic States Association of Food and Drug Officials at their annual meeting held on May 28, 1958, when he was presented the first annual member award, "in recognition of his outstanding services to the Association and achievements in his chosen field of food and drug law enforcement."

Mr. Abrahamson is a member of long standing of the International Association of Milk and Food Sanitarians and has served for a number of years on the Association's Bakery Equipment Standards Committee. He has presented papers at annual meetings and has contributed articles on bakery sanitation and equipment standards to the *Journal*.

Members of International extend greetings and congratulations to him for this recently conferred honor.

## DAIRY INDUSTRY WASTE GUIDE REVISED NEW VERSION TO BE PUBLISHED

A proposed revision of the U. S. Public Health Service publication, "An Industrial Waste Guide to the Milk Processing Industry" was approved at the Dairy Industry Committee Sub-committee on Dairy Waste in Chicago in April. The revision of this Guide, the first since 1953, will soon be published by the Public Health Service. It represents comments from industry sources, and collaboration with the National Technical Task Committee on Industrial Waste.

The DIC sub-committee also heard reports relating to publicity, waste prevention, treatment systems as related to municipal sewage systems, and progress in the field of research.

Professors G. A. Rohlich and L. E. Englebert of the College of Engineering of the University of Wisconsin gave progress report on their studies on spray irrigation.

F. J. McKee indicated that the National Technical Task Committee on Industrial Waste has broadened its program to include water conservation.

Reports were made on the progress of research that may affect dairy waste treatment systems which are now under study at the Universities of Minnesota, Wisconsin and Michigan State. It was announced that the Utilization Studies on Dairy Waste at the Eastern Regional Laboratory U. S. D. A. are being continued. Studies are being developed at Manhattan College, New York City, that may shed more light on the chemistry and bacteriology of dairy waste treatment.

Mr. Daniel Evans, Regional Engineer, and Mr. E. T. Roetman, Industrial Wastes Engineer of the Public Health Service, outlined some of the problems confronting the Service in protecting the public from air and water pollution. The importance of water conservation as related to waste disposal systems was stressed.

Information concerning the activity of the Dairy Industry Committee Sub-committee on Dairy Waste may be obtained from the Secretary, R. P. Choi, at American Dry Milk Institute, 221 North LaSalle Street, Chicago 1, Illinois.

## AMERICAN VETERINARY MEDICAL ASSOCIATION TO HOLD 95th ANNUAL MEETING

The American Veterinary Medical Association will hold its 95th annual meeting in Philadelphia, August 18-21.

A wide variety of subjects of interest to the profession and of general interest will be discussed. Among papers to be presented are the following: *Rabies Control in the Community; Bovine Brucellosis Eradication and Declining Incidence of Undulant Fever in Man; Hormones and Animal Nutrition; Studies on Newcastle Disease Virus;* and *Radiation Biology in Veterinary Education and Research.*

The Association reports 19,347 Veterinarians in the United States as of January 1, 1958. A breakdown of veterinary activities and participation is as follows:

| | |
|---|---|
| General practice in rural areas | 50% |
| Small animal practice in urban areas | 12% |
| Teaching and research | 4% |
| Federal, State and Municipal Service | 20% |
| U. S. Army and USAF Veterinary Corps | 3% |
| Private industry | 5% |
| Miscellaneous | 7% |
| Retired | 5% |

There are approximately 250 women holding the degree, Doctor of Veterinary Medicine.

# NOTICE TO MEMBERSHIP

**Proposed Constitution and By Laws amendments to be considered for adoption at the 45th Annual Meeting of the International Association of Milk and Food Sanitarians in New York City, September 8-11, 1958**

# PROPOSALS FOR AMMENDMENTS TO THE CONSTITUTION & BY LAWS OF THE INTERNATIONAL ASSOCIATION OF MILK & FOOD SANITARIANS, INC.

## CONSTITUTION

New matter *in italics.*

Matter intended for deletion in double parentheses (( )).

### Article I
### Association

Unchanged

### Article II
### Objectives

1. *To foster efforts designed to improve the professional status of the Sanitarian.*

Note: other subdivision to be renumbered in sequence.

### Article III
### Membership

Unchanged

### Article IV
### Officers, Executive Board & Council

Section 1. The officers of this Association shall be a President, a President-Elect, a First Vice President, a Second Vice President, and a Secretary-Treasurer who shall hold these offices for one year or until their successors are elected or appointed, as provided in ((Section 2)) *the By-Laws.* At the termination of each Annual Meeting, the President-Elect, First-Vice President and Second Vice President shall automatically succeed into the offices of President, President-Elect, and First Vice President respectively. A Second Vice-President and Secretary-Treasurer shall be elected by majority ballot at the Annual Meeting of the Association.

Section 2. Unchanged

Section 3. Repeal present section in total and substitute the following:

*"There shall be created a Council which shall consist of the Secretary or other authorized delegate from each Affilliate Association, and the immediate two Past Presidents of the Association. Each Affilliate Association shall have one vote at Council meetings. The Council shall select its Chairman and Secretary, shall keep a record of its proceedings, and shall, at each annual meeting of the Association, submit its recommendations to the Executive Board.*

Note: This change was recommended by the Constitutional Revision Committee and has the effect of giving the Council greater independence in the selection of its officers and reducing the membership of Executive Board members.

Section 4. Unchanged

### Article V
### Affilliate Associations

Section 1. Unchanged

Section 2. Each Affiliate Association shall have one representative on the Council. The representative shall be the Secretary ((of the Affilliate Council)) *or other duly authorized delegate of the Affilliate Association.* ((An alternate representative on the Council may be certified by the Affilliate Association to serve in the absence of the Secretary)).

Note: This change is in the direction of simplification but does not change the substance. It was a recommendation of the Committee on Constitutional Revision.

### Article VI
### Meetings

Section 1. Unchanged

Section 2. Unchanged

Section 3. Unchanged

Section 4. *The Executive Board shall meet at each annual meeting of the Association and at such other times as the President shall deem necessary. A quorum for Executive Board meetings shall consist of at least five members and decisions shall be by a majority vote of those present.*

Note: This provision is lacking in the present Constitution and it is considered advisable to spell out the obligation to hold at least one Executive Board meeting and define a quorum.

## BY-LAWS

### Article I
### Membership & Dues

Section 1. Unchanged

Section 2. Unchanged

Section 3. Unchanged

Section 4. Unchanged

Section 5. Unchanged

Section 6. A member of the Association may be expelled for due cause upon recommendation of the Executive Board after opportunity for hearing by the Board, *as provided below in Article II, Section 5G of the By-Laws,* and a majority vote of the members

at any Annual Meeting. Any member so expelled shall have refunded such pro-rata part of his membership dues as may not be covered by his term of membership.

Article II

Duties of Officers, Executive Board, and Council

Section 1. Unchanged

Section 2. Unchanged

Section 3. Unchanged

Section 4. The following shall be the duties of the Secretary-Treasurer:

A. The Secretary-Treasurer shall record the proceedings of the Association ((.)) *and, unless an Executive Secretary has been appointed in accordance with the provision of subdivision B of this Section,* ((He)) he shall *also* keep a list of the members, and collect all moneys due to the Association, giving his receipt therefor. He shall record the amount of each payment, with the name and address of the person so paying. He shall faithfully care for all moneys entrusted to his keeping, paying out the same only with the approval of the President and taking a receipt therefor. *Unless the Association employs an Executive Secretary* ((He)) he shall, immediately after his election to office, file with the President of the Association a bond in the sum of Five Thousand Dollars ($5,000), the expense of which shall be borne by the Association ((.)) *and* ((He)) shall, at the Annual Meeting, make a detailed statement of the financial condition of the Association.

B. ((Any of)) The *following* prescribed duties of Secretary-Treasurer may be delegated to an Executive Secretary ((to be)) appointed by the President upon approval of the Executive Board:

1. *To keep a list of the members, and collect all moneys due the Association, giving his receipt therefor.*
2. *To record the amount of each payment, with the name and address of the payor.*
3. *To faithfully care for all moneys entrusted to his keeping, paying out the necessary expenses of the Association and giving an accounting thereof to the Board Members.*
4. *To file a surety bond with the President of the Association in the sum of Five Thousand Dollars ($5,000), the expense of the bond to be borne by the Association.*
5. *To give a detailed statement of the financial condition of the Association at the Annual Meeting.*
6. ((He)) *The Executive Secretary* will hold office until the Executive Board authorizes the President to appoint a successor, but the status of the ((incumbent)) Executive Secretary will be that of any employee of the Association ((who will not relieve the elected Secretary-Treasurer of the latter's responsibiliey to the Association.))

C. Unchanged

D. ((He)) *The Secretary-Treasurer* will be reslponsible . . . . . entitled to receive the publication.

E. ((He)) *The Secretary-Treasurer* will record and keep accurate minutes of the proceedings of all meetings of the Association *and the* Executive Board ((, and the Council)) and prepare and keep them for permanent reference. He shall issue notices of all meetings, ((to)) conduct correspondence ((appertaining)) pertaining to the affairs of the Association, and perform *other* duties incident to the office ((and such)) as the Executive Board may authorize.

Section 5. Unchanged

A. Unchanged

B. Unchanged

C. Unchanged

D. Unchanged

E. Unchanged

F. ((To authorize the President to)) To make protem appointments to fill any vacancy that may occur among the officers between meetings of the Association ((whether the vacancy is caused by resignation, death, inability or other cause of inactivity,)) in the interest of the Association, *and to recommend the replacement of an officer at the annual meeting, because of inability or inactivity or for other causes which may be in the interest of the Association.*

G. To ((revoke)) *recommend expulsion from* membership, for cause by two thirds vote of all votes cast, but in no case will ((membership be revoked)) *revocation be recommended* without giving the member written notice of reasons for the contemplated action at least one month before action is taken and *an* opportunity be given for a hearing in person and/or *a rebuttal* in writing.

Section 6.

A. Unchanged

B. Unchanged

C. Unchanged

D. Unchanged

E. Unchanged

F. Unchanged

G. ((The immediate Past President)) The *Chairman* shall preside at all meetings of the Council. He shall appoint all committees unless otherwise directed by vote of the council, and perform such other duties as usually devolve upon the presiding officer or are required of him by the Constitution and By-Laws.

Notes: Changes in Section 4, A and B, above, were largely suggested by Constitutional Revision Committee. It was considered advisable to define

those duties of the Secretary-Treasurer which could be delegated to an Executive Secretary and to define the duties of the Executive Secretary. The present provisions are unclear in this respect and are unfair to the Executive Secretary who is charged with responsibilities which have been delegated to another. Also, there is no reason for a Secretary-Treasurer bond when he does not collect moneys.

If Article IV, Section 3, of the Constitution is adopted, the Secretary-Treasurer will no longer be Secretary of the Council and for this reason a change is proposed for Section 4 E.

The change in Section 5F is suggested because it seems illogical to have the Executive Board authorize the President to make a pro tem appointment. In effect, it is the Board that makes the appointment, so why not say so. The suggested change in this subsection is based upon the difficulty of determining whether an incumbent is unable or otherwise inactive. Since the members elect an officer, they should have the final say in his replacement.

The change in Section 5 G is to clarify the present constitution which under Article I, Section 6, enables expulsion by the membership after recommendation by the Executive Board, whereas 5 G of the by-laws enables revocation of membership by the Executive Board alone.

The change in Section 6 F of Article II becomes necessary if the recommendations on Article IV, Section 3 of the Constitution are adopted.

*Article III*

Affilliate Associations

Section 1. Unchanged

Section 2. Unchanged

Section 3. Unchanged

Section 4. Unchanged

Section 5. ((Each Affilliate Association shall have one representative on the Council. The representative shall be the Secretary of the Affilliate Association. An alternate representative of the Council may be certified by the Affiliate Association to serve in the absence of the Secretary))

Note: This section is a repition of Article V, Section 2, of the Constitution. There is no need for the duplication.

Article IV

Committees

Section 1. Unchanged

A. The Program Committee shall consist of the President-Elect *who shall serve as Chairman,* the two Vice Presidents and the Secretary-Treasurer.

B. The Membership Committee shall consist of a Chairman appointed by the President, ((the First Vice President and)) the Secretary-Treasurer, *one member from each Affilliate, and such other members as are deemed desirable by the Executive Board.*

C. The Committee on Publications ((will)) *shall* consist of the Editors of the Association's publication and the Secretary-Treasurer of the Association who will report all matters ((appertaining)) *pertaining* to the publications ((of)) *to* the Executive Board at least once every year and whenever so requested by the Executive Board. This Committee will handle all editorial (((and business)) matters concerned in publishing the Journal of Milk & Food Technology, with the approval of the Executive Board.

Note: It is considered advisable to broaden the base of the membership committee to include a member from each affilliate. Also, it was felt that the First Vice President should not be burdened with this extra duty. Other changes are merely for clarity.

Section 2. ((The President, at each Annual Meeting)) *Each year, the President, as soon as convenient, but at least 30 days prior to the Annual Meeting* ((will)) *shall* appoint a Nominating Committee of seven members, other than officers of the Association. *One member shall have been a member of the Nominating Committee from the previous year.* This Committee shall submit to the Association at the Annual Meeting the names of at least one nominee for each elective office in the Association. These names, together with any other nominations duly made on the floor at the Annual Meeting, shall be voted upon. If there are more than two nominees for any office and none receives a majority of all the votes cast ((the candidate receiving the lowest count on the first ballot will be eliminated from the second ballot, and this procedure will be followed until a majority vote is reached.)) *the candidate receiving the highest number of votes and the candidate receiving the second highest number of votes shall be retained on the ballot, all others being eliminated, and voting shall proceed on these two candidates.*

Note: These changes follow quite closely the recommendations of the Constitutional Revision Committee except that a thirty day deadline before the meeting is imposed. This would prevent a president from failing to appoint a committee early because it might not be convenient.

The provision for eliminating all but two names on the ballot for each office is to prevent a long drawn out elimination contest, if there should be a great number of candidates.

Article V

Meetings

Section 1. Unchanged

Section 2. Special meetings of the Association may be called by the Executive Board, ((of which)) *but in such cases* due notice shall be given to the members by the Secretary-Treasurer.

Section 3. The Executive Board and the Council ((will)) *shall* meet at the Annual Meeting and ((at such other times as the members by a majority vote of all the votes cast shall deem desirable)) *at all special* meetings of the Association. ((For all meetings of the Association other than Annual Meetings, reasonable notice will be sent each member by the Secretary-Treasurer)) ((In each case, a)) A quorum *of the* Council shall consist of a majority of ((the respective membership)) *its members.* ((However, any subject may be handled by mail vote, in which event the majority of the votes cast will constitute official action)). *When, in the discretion of the Executive Board it is considered advisable to conduct a vote on a question by mail vote, a majority of the votes cast will be necessary to carry the proposition.*

Section 4. Unchanged

Note: In Section 3, it was not considered necessary to repeat the portion on notice of special meetings by the Secretary-Treasurer. The change makes it mandatory for the Executive Board and the Council to meet at the Annual Meeting and at all special meetings duly called. It does not permit a Council meeting at the will of its members as now seems to be possible but only at regular and special meeting. The question on quorums is clarified in the case of the Council. Previous sections already deal with Executive Committee quorums. The mail vote provision is now very indefinite in that it can relate to any subject. The change would enable a mail ballot only where the Executive Board authorizes such action.

Article VI
Publications

Section 1. Unchanged

Section 2. The Journal of Milk & Food Technology will be the official organ of the Association. ((The Editors will be appointed by the President, subject to the approval of the Executive Board for the satisfactory administration of the Journal affairs)). The Journal will be the property of the Association ((who)) *which* will own the copyrights to the Journal and all articles published therein. The Editors will serve at the pleasure of the Executive Board.

Section 3. Unchanged

Note: The reason for the proposed deletions here are based on the fact that the items are already covered in Article IV Section 1, C, of the by-laws.

Vincent T. Foley
Secretary-Treasurer

## NOTICE TO AFFILIATE ASSOCIATIONS

**Rocky Mountain States Association of Milk and Food Sanitarians challenges any or all other affiliate associations to put up $50.00 cash on greatest increase in membership. Winner to take all. Starting July 15, 1958 — acceptance of challenge closes Sept. 1, 1958 — competition ends Aug. 28, 1959 at 46th Annual Meeting of IAMFS, Glenwood Springs, Colorado.**

**Signed:**
**Charles E. Walton, President**
**Rocky Mountain States**
**Association of Milk and**
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# AUTHORIZATION TO USE THE 3-A SYMBOL

Following is a list of concerns to which 3-A Symbol Council authorizations to use the 3-A symbol have been issued since publication of the list in the April, 1958 number of the Journal. This list supplements other listings published in April and in earlier issues of the Journal.

| Authorization Number | Type of Equipment | Model Numbers |
|---|---|---|
| | **FITTINGS** | |
| 82 | Cherry-Burrell Corporation,<br>5011 Albany Street,<br>Little Falls, New York | Authorization does not apply to Models: 10C1R, 11C1R, 11C1TR. |
| Note: An amendment to the 3-A Sanitary Standard, to permit rubber-coated valve plugs, is now under consideration. | | |
| 34 | Tri-Clover Division,<br>The Ladish Company,<br>2809 Sixtieth Street,<br>Kenosha, Wisconsin | |
| Note: Authorization certificate amended to cover the following models of Butterfly-type valves: 10TBMP, 10TMF, 10TL, A1OCD, A1OCMP, B1OTDF, B1OTDL, B1OTDMP, 11DB, 11DBMP, 11DC, 11DCMP, 11DL, 11DLMP, 11DR, 11DRMP, 11DXC, 11DXCMP, 11DXL, 11DXLMP, 11DXR, 11DXRMP, 60TTME, 60TTMGC, 60TTMMP, 60TTMRL, 60TTRE, 60TTRGC, 60TTRMP, 60TTRRL, 60YTME, 60YTMGC, 60YTMMP, 60YTMRL, 60YTRE, 60YTRGC, 60YTRMP, 60YTRRL, E60TTRE, E60TTRL, S60TTME and S60TTRE. | | |
| 100 | Food Equipment & Specialties, Co.<br>1415 Lake Avenue,<br>Wilmette, Illinois | 61–10–0, 61–20–0,<br>61–21–0, 61–40–0,<br>71–10–0, 71–20–0,<br>71–21–0, 71–40–0. |
| | **HEAT EXCHANGERS — RETURN TUBULAR** | |
| 103 | Chester-Jonsen Company,<br>5th & Tilghman Streets,<br>Chester, Pennsylvania | STe–Vac: SV–5, SV–6, SV–8, SV–11, SV–12, SV–20, SV–30 and SV–40. |
| | **PUMPS** | |
| 65 | G. & H. Products Company,<br>2409 52nd Street,<br>Kenosha, Wisconsin<br>Changed to:<br>5778 52nd Street,<br>Kenosha, Wisconsin | |
| | **TANKS — AUTOMOTIVE** | |
| | G. H. Hicks and Sons, Inc.,<br>3908 Cane Run Road,<br>Louisville, 11, Kentucky | FTT, FTTC, FTTR, FTTRC, TT, TTC, TTR, and TTRC. |
| | **TANKS — FARM** | |
| 4 | Dairy Equipment Company,<br>1444 E. Washington Avenue,<br>Madison, Wisconsin | Add: DKS–1000 |
| 6 | Solor Permanent Company,<br>Div. of U. S. Industries, Inc.,<br>Tomahawk, Wisconsin | Add: 6–1000, 7–1000, 8–1000, and 10–1000. |
| 104 | Vacooler Company,<br>136 Winckles Street,<br>Elyria, Ohio | V–200, V–275, V–300, V–400, V–500, V–600, V–800, and V–1000. |
| | **TANKS — STORAGE** | |
| 102 | Chester-Jonsen Company,<br>5th & Tilghman Streets,<br>Chester, Pennsylvania | Purity: Rectangular – AHM, AH-H, and AH-L.<br>Cylindrical – AH-C. |

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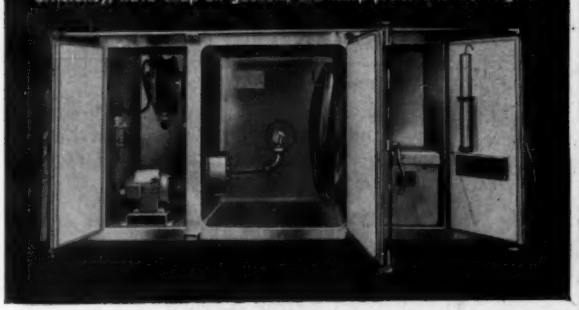

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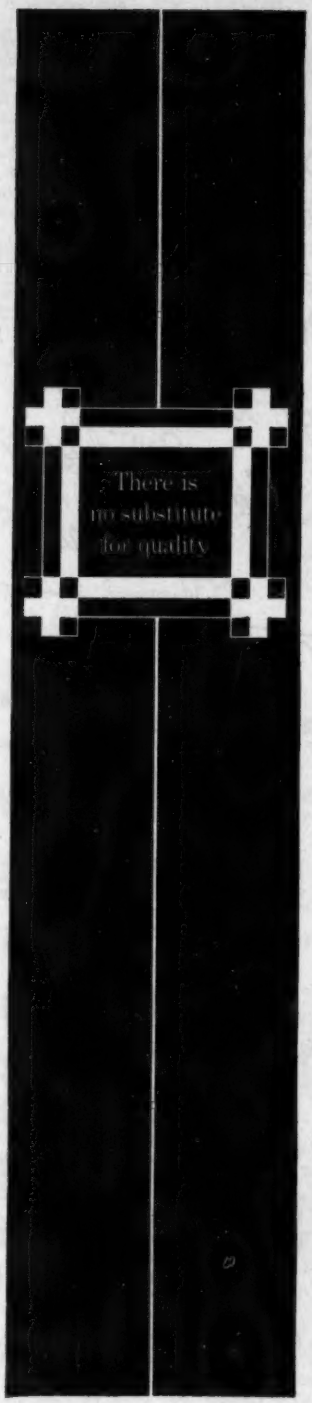


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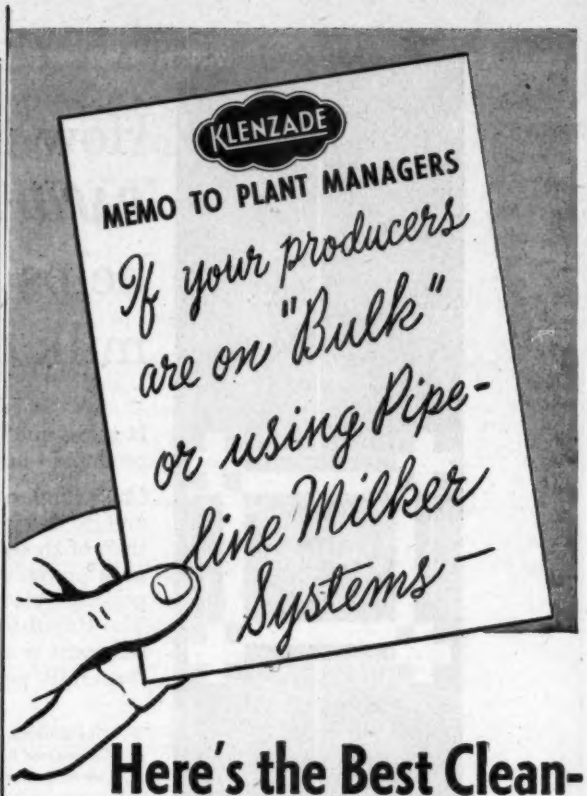


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